

## ABSTRACT OF THE DISCLOSURE

A modified lithium ion polymer battery, comprising a positive electrode sheet and a negative electrode sheet, formed by blending a binder with positive electrode powder and coating the resulting blend on a copper foil or an aluminum foil used as the collector, wherein said binder can be prepared from the following three components: (a) 0.1 wt%~95wt% of polyvinylidene fluoride; (b) 0.1wt%~90wt% of a modified polyacrylates; and (c) 0.1 wt%~85wt% of a modified polyethylene or polydienes; alone, or from any two or all of them in a proper ratio; and a separation membrane, which is a non-porous polyalkylene oxide film or a film made by coating a blend of polyalkylene oxide and polyvinylidene fluoride (PVDF), or a micro-porous polypropylene film, or a three-layered composite film of polypropylene/polyethylene/polypropylene; wherein said positive and negative electrode sheets are laminated with said separation membrane to form a overlap sheet or roll in a alternative and isolation manner; said positive and negative collectors are welded, respectively; and the whole laminate is assembled with an aluminum plastic membrane to form said lithium ion polymer battery.